



**The Hong Kong Polytechnic University
Department of Applied Mathematics**

Colloquium

On

**From Quadratic Optimization to Polynomial Optimization:
Recent Developments**

by

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Abstract

Constrained quadratic optimization problems and polynomial optimization problems provide classes of intrinsically hard optimization problems. Yet, they are important optimization models that often arise in numerous applications. I will begin by presenting recent developments on identifying global solutions of non-convex quadratic optimization problems. I will provide examples of successful quadratic approximation approaches using under/over-estimators to establishing Lagrangian based global optimality conditions for classes of non-convex optimization problems by exploiting hidden convexity of certain quadratic systems. I will also discuss recent developments on identifying and solving polynomial optimization problems. Convexity plays a key role in these developments of both areas.

Date : 13 December, 2012 (Thursday)

Time : 2:30 p.m. – 3:30 p.m.

Venue : HJ610, The Hong Kong Polytechnic University

*** * * ALL ARE WELCOME * * ***